

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

Claims 1-28 (Canceled)

29. A gas processing plant comprising:
- a refluxed absorber operating at a first pressure, producing a bottoms product stream and receiving a feedstock and an absorber reflux stream;
  - a distillation column fluidly coupled to the absorber, receiving a distillation column feed stream, producing a distillation column overhead stream, and operating at a second pressure that is at least 100 psi lower than the first pressure;
  - wherein at least a portion of the bottoms product stream is expanded and provides cooling for at least one of the absorber reflux stream and the distillation column feed stream;
  - wherein the distillation column overhead stream is separated into a fluid portion that provides reflux for the distillation column and a gaseous portion that is liquefied and provides the absorber reflux stream;
  - wherein the distillation column comprises a de-ethanizer column, and wherein the feedstock is at a pressure of between 1000 psig and 2000 psig;
  - wherein the bottoms product stream has a pressure and wherein expanding the bottoms product stream reduces the bottoms product stream pressure in a range of 100-250 psi;
  - wherein the expanded bottoms product stream further provides cooling for a distillation column overhead stream; and
  - wherein at least a portion of the feedstock is expanded in a turboexpander.
30. The gas processing plant of claim 29 wherein the expanded bottoms product stream has a temperature between -95°F to -125°F.

31. The gas processing plant of claim 29 wherein the expanded absorber bottoms product stream is fed as the distillation column feed stream into the distillation column at a position that is at least three trays below an upmost tray of the distillation column.
32. The gas processing plant of claim 29 wherein the distillation column produces a distillation column overhead stream that is compressed, cooled, and fed into the absorber as the absorber reflux stream.
33. The gas processing plant of claim 29 wherein the feedstock comprises propane, and wherein the distillation column produces a distillation column product stream that comprises at least 95% of the propane in the feedstock.